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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,914	10/10/2003	Lester F. Ludwig	2152-3016	3060

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EXAMINER

FLETCHER, MARLON T

ART UNIT	PAPER NUMBER
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2837

MAIL DATE	DELIVERY MODE
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08/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/683,914

Applicant(s)

LUDWIG, LESTER F.

Examiner

Marlon T. Fletcher

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-101 is/are pending in the application.
- 4a) Of the above claim(s) 72-101 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4, 23, 39, and 55, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear as to what the multi-parameter sensor signals represent. Is the surface sensor actually representative of touch of the key or the depression? How does the surface sensors produce multi-parameter signals based on touch or depression? It is indefinite in the claim how the functions are provided.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-3, 17, 19-22, 36, 38 rejected under 35 U.S.C. 102(a) as being anticipated by Ura et al. (5,824,930).

Ura et al. disclose an electronic musical instrument control system comprising: a keyboard (10a) comprising a plurality of keys (10c, 10d), wherein each key of said plurality of keys is physically displaceable within a key travel range; a separate key

position sensor (12i, 12m) associated with each key of said plurality of keys, wherein each key position sensor of said plurality of key position sensors responsively provides a key displacement signal corresponding to the position of an associated key within said key travel range (column 8, lines 49-62); and at least one displacement sensor interface (12aa – MPU) for receiving said key displacement signals from at least one of said plurality of key position sensors, wherein said at least one displacement sensor interface responsively generates an individual output control signal for each key displacement signal received at said at least one displacement sensor, and wherein each output control signal generated by said at least one displacement sensor is adapted to provide control of sounds generated by an electronic musical system (column 9, line 64 – column 10, line 13; column 10, lines 51-65; and column 13, lines 41-63).

Ura et al. disclose the control system, wherein an output control signal associated with at least one key of said plurality of keys is adapted to provide volume control of a synthesized sound generated by said electronic musical system, wherein said volume control is obtained by varying the location of said at least one key within said key travel range (column 9, lines 43-50; and column 10, lines 5-13).

Ura et al. disclose the control system, wherein an output control signal associated with at least one key of said plurality of keys is adapted to provide timbre control of a synthesized sound generated by said electronic musical system, wherein said timbre control is obtained by varying the location of said at least one key within said

key travel range (column 9, lines 43-50; column 9, line 64 – column 10, line 13; and column 29, lines 16-20).

Ura et al. disclose the control system, wherein one or more pre-determined values of said key displacement signal associated with at least one key of said plurality of keys trigger the generation of particular synthesizer sounds by said electronic musical system (column 9, line 64 – column 10, line 13).

Ura et al. disclose the control system, wherein each output control signal of said plurality of individual output control signals comprise signals of MIDI format (column 10, lines 63-65).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 18 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ura et al. in view of Muramatsu (5,977,466).

Ura et al. are discussed above. Ura et al. do not disclose a restoring force.

However, Muramatsu disclose a control system, comprising: a control signal generator for generating a physical restoring force signal for each key of said plurality of keys, wherein each physical restoring force signal of said plurality of physical restoring force signals is generated based upon a corresponding key displacement signal

Art Unit: 2837

generated in response to the position of an associated key within said key travel range, wherein said physical restoring force signal identifies an amount of necessary force to provide a desired level of tactile feedback for said associated key (column 6, lines 43-60); and a restoring force actuator (4c) coupled to each key of said plurality of keys, wherein said restoring force actuator responsively provides said desired level of tactile feedback in response to an associated physical restoring force signal generated by said control signal generator (column 6, line 64 – column 7, line 6) (Also Muramatsu recites the above in claims 1 and 15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Muramatsu with the teachings of Ura et al., because the teachings further provide the user with touch feelings responsive to the actuated keys.

Allowable Subject Matter

7. Claims 4-16 and 23-35 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


8. Claims 39-71 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T. Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 571-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MTF
8/6/07



Marlon Fletcher
Primary Examiner